**AUTOMATIC IRRIGATION SOIL MOISTURE CONTENT CONTROL**

**AIM:** The main aim of our project is to monitor the moisture content in the soil in cultivating field and to supply water depending on moisture conditions in farm.

**PURPOSE:** In irrigation process, most important parameter is monitoring of soil, so we have to monitor the soil condition, whether the soil is dry or wet. If it is dry, then by using pumping motor, water has to be pumped automatically.

**CROP FIELD SECTION:**

POWER SUPPLY`

LCD DISPLAY

16X2 LINES

**SOIL MOISTURE**

RELAY

PUMPING

MOTOR

MICRO CONTROLLER

(AT89S52)

**WATER LEVEL INDICATOR**

**Power Supply:**

**STEP DOWN**

**TRANSFORMER**

**BRIDGE**

**RECTIFIER**

**FILTER**

**CIRCUIT**

**REGULATOR SECTION**

**DESCRIPTION:**

The project title itself indicates that the system checks the moisture content in the soil, based on that pumping motor will automatically pumps the water into the field. Here we are using soil moisture sensor.

By using this sensor, we can find whether the soil is wet or dry. If it is dry, pumping motor will pump the water. In this project, the main controlling device is AT89S52 microcontroller. Here soil sensor is placed inside the soil which senses the water content. If the water content in soil reduces and becomes dry the sensor will give the status of the soil to the microcontroller, based on that microcontroller will display the status of the soil on the LCD and switch on or off the pumping motor through relay. The pumping motor will pump the water into the field until the field is wet which is continuously monitor by the microcontroller by means of Soil moisture sensor.

**HARDWARE COMPONENTS:**

1. Microcontroller (AT89S52)
2. LCD Display(16x2 LINES)
3. Soil Moisture Sensor
4. Relay
5. Pumping Motor

**SOFTWARE:**

1. Keil uvision
2. Express PCB
3. ISP

**APPLICATIONS:**

1. Irrigation purpose
2. Field monitoring system.

**RESULT:**

By this project we can control the moisture content of the soil in the cultivating field.